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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-14, and 36. (Canceled)

Claims 15-26. (Canceled)

27. (Currently amended) An apparatus for conditioning a moving porous paper web on a papermaking machine in a direction of travel wherein the web has first and second surfaces and a high temperature gaseous boundary layer adjacent at least the second surface and high temperature gas and/or vapor in pores of the web in flow communication with the first and/or second surfaces of the web, the apparatus comprising:

a moving support having a support surface with the first surface of the web supported adjacent the support surface and the second surface of the web facing away from the support surface;

at least one air deflector for stripping away at least a portion of the boundary layer from adjacent the second surface of the web prior to applying the flow of cooling gas there against;

at least one orifice in flow communication with a cooling gas supply for applying a flow of cooling gas against the second surface of the web in order to cause a gas pressure to be exerted against the second surface;

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an entry jet box configured to direct a high velocity cooling gas over the porous paper web in a direction opposite to a direction in which the porous paper web moves;

a vacuum chamber associated with the support surface for exerting a vacuum force against the first surface of the web supported adjacent the support surface wherein the vacuum force is sufficient to withdraw high temperature gas and/or vapor from at least pores adjacent the first surface of the web into the vacuum chamber and wherein the vacuum force is exerted adjacent a location on said first surface substantially opposed to the location at which the pressure force is maintained adjacent said second surface in order to promote a flow of gas through the web from adjacent the second to adjacent the first surface and into the vacuum chamber; and

a moistening device configured to moisten the web adjacent to the moving support wherein the moistening device comprises a plurality of steam nozzles adjacent to the second surface of the web which results in steam condensation on the second surface of the web and within an interior region of the web.

28. (Original) The apparatus of Claim 27 wherein the moving support comprise a rotating cylinder having a cylindrical perforated surface defining the support surface thereof providing flow communication between the exterior of the cylinder and the interior of the cylinder by flow of gas through the perforations, with the perforated cylindrical surface supporting the first surface of the web adjacent at least a portion of the perforated surface, said vacuum chamber being disposed within said rotating cylinder closely adjacent the portion of the perforated surface adjacent which the first surface of the web is supported so that high temperature gas and/or vapor withdrawn from the web by the vacuum force pass through perforations in the perforated surface

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and into the vacuum chamber.

29. (Original) The apparatus of Claim 27 further comprising at least one nozzle in flow communication with a cooling gas for cooling the support surface.

30. (Original) The apparatus of Claim 28 wherein the moving support further includes an endless porous support fabric carried on the support surface between the support surface and the first surface of the web so that gas and/or vapor withdrawn from the web passes through the support fabric and then into the perforations in the cylinder.

31. (Original) The apparatus of Claim 27 further comprising at least one nozzle for applying a pressurized gas directed substantially tangential to the second surface of the web and substantially opposite to the web travel direction and upstream of the moving support.

32. (Original) The apparatus of Claim 27 further comprising at least one nozzle for applying a flow of a second cooling gas directed substantially tangential to the second surface of the web and along the web travel direction adjacent to and downstream of the moving support so that at least a portion of the second cooling gas develops a boundary layer of cool gas carried adjacent the second surface of the web.

33. (Original) The apparatus of Claim 27 further comprising a moistening gas source for applying moist gas to the web adjacent to and downstream of the moving support to increase the moisture content of the web.

34. (Previously presented) The apparatus of Claim 32 wherein the plurality of steam nozzles supported in close proximity to the second surface of the web and connected in flow communication with a source of steam for delivering steam against the second surface of the web causes the steam to condense on the second surface of the web and within an interior region of

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the web.

35. (Original) The apparatus of Claim 27 wherein the flow of cooling gas and the vacuum chamber in conjunction with the web's porosity are sufficient to cause a flow of gas through the web from adjacent the second to adjacent the first surface.

36. (Canceled).

37. (Previously presented) The apparatus of claim 27 further comprising a source of vacuum configured against the first web surface and opposite of the steam nozzle such that the web travels between the source of vacuum and the steam nozzle.